

## Step by Step Installation Guide

**A full step by step video installation guide is posted online at:  
<http://e-bikekit.com/electric-bike-kit-installation-e-bikekit.html>**

**A few KEY POINTS before you get started:**

- Which way to insert the wheel - The disc brake side (the side with the 6 bolts in it to secure a disc brake rotor) should face the left with the bike forward and upright (you sitting in the seat looking down).
- The Universal Torque Arm should go on the side of the axle without the wire.
- C-Washers are only included with front wheels and only used if you have recessed quick-release dropouts (where the axle enters the forks). If you don't have quick-release forks then you do not use them.

### **Step 1 - Make Sure Your Bike is Suitable for Conversion**

The E-BikeKit electric bike conversion system is universal and can be used to convert most conventional bicycles. However, there are a few criteria which must be met first.

#### **Your front forks or rear dropouts need to be wide enough to accept the hub motor**

Front forks **MUST** be at least 100mm at the dropouts (where the axle fits into the forks). Rear conversions require 135mm of space between the rear dropouts (this is standard for most bicycles). **You may need to use a file to remove the paint form the inside of the dropouts (where the axle enters the fork or frame).**

Front wheel conversions **MUST** use a Universal Torque Arm & C-Washer (when appropriate with certain alloy or quick release forks). Using the "C-Washers" (for indented quick release forks only) and a Universal Torque Arm ensures a safe to install of the front wheels on "non-steel" & quick release forks.

**Please Note:** The rear motor axles are 12mm diameter and machined 10mm on the flats. Depending on the forks, a small amount of filing may be required to make the dropout slot wide enough to fit the 10mm axle width.

#### **You should always use a Universal Torque Arm for front wheel conversions (rears optional)**

For more information and instructional videos regarding torque arm installation search Youtube for "e-bikekit, torque arm". Torque arms are included with every E-BikeKit. Torque arms provide increased support at the axle and are used to prevent the axle from ever "spinning out" inside the dropouts. Torque arms are optional for rear direct-drive conversions and not necessary for rear conversions using the 350w geared motor (not included with rear geared kits).

### **Step 2 - Transfer Your Tire and Tube & Install the Hub Motor Wheel**

You will need to transfer you're existing tire and inner tube or a new tire and inner tube to the E-BikeKit wheel. Next you will insert the E-BikeKit wheel into the forks (fronts) or rear of the frame. You may need to use a file to remove the paint form the inside of the dropouts (where the axle enters the fork or frame). After ensuring the axle is flush inside the dropouts you can secure the rim in place. If you have quick release forks with an indented space on your front forks you **MUST** use the supplied "c-washers" to fill the indented space so that all the hardware is flush. Make sure you secure the bolts tightly and use the supplied universal torque arm to keep the motor from spinning within the fork.



**BE CAREFUL:** If you apply power and the axle is not secured tightly, the motor will try to turn inside the dropouts, permanently damaging the wires connecting the motor. This is called “spinout” and is not covered under warranty.

Inflate the tire, secure the brakes and flip the bike back over. Re-install and adjust the brakes. The new rim and old rim are likely not 100% the same, so adjust the brake pads so that they engage the rim with full contact. Adjust the cable for enough free-play to keep the brake pads off the wheel during rotation. Electric bikes require more attention and care to brakes since you will normally be riding at higher speeds. Inspect your brakes and brake pads regularly for wear and tear.

### **Step 3 - Install the Throttle & Brake Handles**

Next remove the grips from the handle bars to replace the brake handles (optional use) and install the throttle. The E-BikeKit includes both left and right brake handles with internal magnetic switches that cutoff power and deactivates the throttle when braking. You will need to connect your existing caliper brake inner-wires to the E-BikeKit™ brake handles. After installing the brake handles, install the throttle. Both throttle types (split-twist & thumb) are included. Which throttle you use will be decided by how you change gears and your personal preference. Simply slide the throttle onto your right side handlebar and tighten in place with the provided 3 mm hex wrench.

Next, connect the throttle and e-brakes (if using them) to the “accessory wire”. **Important: You should hear two audible clicks when the throttle is inserted fully and properly into the connector.** The accessory wire will then plug into the accessory extension wire and that will plug into the controller (typically mounted near the rear of the bike).

### **Step 4 - Securing the SLA Battery Pack / Charging the SLA Battery**

How you do this will depend on the battery you are using. The E-BikeKit electric bike conversion kit system will work with any 36v or 48v e-bike battery pack. The E-BikeKit SLA battery comes in a canvas bag and is secured to a standard rear rack using 4 Velcro straps located on the four corners of the bag. Simply wrap each of the straps around the rack, pull tight and secure them using the Velcro.

**Note:** The battery has a separate discharge and charge connector. They only connect one way. It is ok to leave the controller plugged into the battery while charging the battery. Be sure the controller is OFF.

**Charge your battery using the supplied 2amp SLA charger.** Simply connect the red and black connectors from the charger to the battery pack. The connection should always be red to red and black to black. You should charge your SLA battery shortly after every use and store it full whenever possible.

The charger will have a **RED light during charging** and be **GREEN when fully charged.** **The charger will get warm during charging (this is normal).** Do not cover the charger or leave it inside a bag, allow plenty of air for the heat to dissipate.

You can leave the charger plugged in for short periods of time (1-2 days); this will not harm the battery. However, do NOT leave the charger connected to the battery for long periods of time.

### **Step 5 - Mount the Controller**

The controller Can be mounted anywhere on the bike. Typically the controller is mounted near the rack or seat post using zip ties. The controller can also be neatly tucked inside the SLA canvas bag if the battery pack is small enough to allow for it. The controller can be mounted in any position and is water-resistant.

### **Step 6 - Run the Wiring**

For a clean install, route all of the wires toward the back of the bike and secure the wires with the supplied zip ties. Make sure you have full range of motion with the handlebars when tying back the wires and leave some slack at each zip tie.

### **Step 7 - Connect the Electronics**



In the front of the bike from the handlebars running to the back of the bike you will begin with the wires for the throttle and e-brakes connecting to the accessory wire (3-1 w/ headphone jacks), the accessory wire will connect to the accessory extension wire (usually running the length of the bike) and then to the controller (typically mounted near the rear of the bike and close to the battery pack). The other extension wire (thicker) is for the motor. This will connect from the motor and also connect to the controller. These are the only two wires that will run the length of the bike. The third wire on the controller the power wire (2 prong) and connects to the battery. If using the SLA battery you will find a mating connector on the battery pack. If using your own battery you can use the supplied battery wire harness to convert the wires coming from your battery pack to connect to the E-BikeKit controller battery wire.

When all connections are correctly and securely attached, plug your battery into the controller. There is an on/off toggle switch on the back of the controller. The switch must be in the ON position to operate the system. You may leave the system connected without concern for draining the battery as long as the toggle on/off switch is in the OFF position.

### **Step 8 - Make Final Adjustments & Enjoy**

Make sure the brakes are adjusted, the wheel is secure and everything is functioning as expected. With the controller on/off in the on position try engaging the throttle to test the system with the hub motor wheel lifted off the ground. If anything is not working properly call customer service for help.

Now you're ready to ride. Be careful and take it slow until you get the feel for your new e-bike. Ride for a few miles and then stop to check everything over again. Be 100% sure that the wheel is secure and that nothing has come loose. You should inspect your e-bike and the system components regularly to ensure all connections are secure, especially the controller and battery connectors.